

VIDEO GAMES



**Creative Industries
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Creative Industries Skills Audits

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About Work Advance

Work Advance undertakes research, analysis and evaluation to advance understanding of developments in the world of work. We drive practical improvements in policies, programmes and practices that support inclusive and sustainable growth; productive businesses and better management practices; a skilled, agile and healthy workforce; and stronger, more vibrant and cohesive local communities.

Through our networks, we provide research, policy and consultancy services to a range of partners, including businesses large and small, trade unions, professional bodies, policymakers and wider practitioners.

Work Advance adopts an approach that is client-centred. We aim to secure practical solutions through blended research and consultancy services, as well as strong stakeholder engagement and partnership, which brings value through evidence-based and expert insights into what works. We design and support the delivery of tailored programmes and initiatives to test and trial new innovations, including help with monitoring and evaluation to track results and impact.

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About the Creative Industries Policy and Evidence Centre

The Creative Industries Policy and Evidence Centre (Creative PEC) works to support the growth of the creative industries in the UK through the production of independent and authoritative evidence and policy advice.

Led by Newcastle University, with the Royal Society of Arts, and funded by the UKRI via the Arts and Humanities Research Council, Creative PEC comprises a core consortium of Newcastle University, Work Advance, the University of Sussex and the University of Sheffield.

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Executive summary

1 Skills shortages when recruiting: The picture today

The UK games industry has expanded rapidly over the past decade, with jobs growth nearly ten times that of the wider UK economy. Yet, recent years have proved more challenging, with contraction of the global games industry and long-term shifts in consumption transforming the sector.

Alongside job shedding in some areas sit skills shortages in others: 42% of games businesses that hired staff (including freelancers) in the past two years reported recruitment difficulties. This is higher than the creative industry average (32%) and mostly caused by candidates lacking the skills or experience required for the roles.

In games, skills shortages are most acute among experienced staff. Employers have struggled to recruit user interface (UI)/user experience (UX) designers and researchers, as well as computer programmers, with hiring senior-level production staff being a particular challenge.

Skills shortages are wide-ranging, including in technical skills such as UI/UX design, coding, 3D modelling, app design, visual effects (VFX) and art. Candidates were reported to lack skills to work with specialist animation software, games engines and tools for data analytics. Stakeholders also emphasised the need for stronger data strategy skills, people management skills and cross-cutting skills, such as teamworking and communication.

2 Current skills gaps in the existing workforce

Alongside the challenge of skills shortages when recruiting, employers in the games industry pointed to skills deficiencies among their workforce. In 2025, skills gaps affected one in five games employers – below the creative industries average.

While caution must be exercised given the small number of employers affected, those reporting skills gaps tended to suggest they are driven by the introduction of new products, services or technologies. Indeed, stakeholders suggested that the pace of technological advancement in the games industry means that the 'skills half-life' is short indeed.

Games employers said that the skills gaps primarily affect new entrants less than two years out of education and experienced staff five to ten years into their careers.

The types of skills that employers said need improving among their workforce closely mirror those lacking in candidates, including project management, digital skills to work with specialist software, and communication and teamworking skills.

A need to upgrade management and leadership skills was also viewed as a priority, with the added challenge of effectively managing remote workforces since Covid-19.

3 Jobs and skills priorities over the next three to five years

Despite the challenging context of today, employers in the games industry are ambitious for the future: 62% reported expecting to grow staff numbers in the next three to five years.

Almost all anticipate a need to upgrade the skills of their workforce in the years ahead, often in response to hardware or software updates. AI is expected to have a transformational impact, augmenting gaming experiences, shifting workflows and embedding these new technologies as a tool for creators.

Many of the roles subject to skills shortages and gaps today are expected to be in growing demand in the future, including programmers, games designers, developers, animators and graphic designers. Commercial roles are also viewed as key, including sales, marketing and social media managers.

Games businesses anticipate a need to upskill their workforce in a range of technical and advanced digital skill areas. Cybersecurity is expected to be an ongoing concern. Employers highlighted the need for adaptability, strategic leadership and commercial skills to enable games firms to respond to market shifts. Environmental sustainability is also expected to be a growing priority for businesses in future.

4 Taking action to address skills challenges for the industry

Skills challenges have had a significant impact on businesses in the games industry – increasing operating costs, hindering delivery and delaying innovation.

Over half of games businesses with skills challenges have taken action in response, including providing workforce training, more clearly stating skills requirements in job ads, strengthening HR practices and offering pay incentives to retain talent.

However, rates of training in games fell short of the creative industries average, with employers reporting a range of practical and financial constraints. Time for training has been a particular challenge, with games employers being more likely to report that managers lack the time to arrange training and that staff lack the time to participate or train others.

Games employers called for more financial support and welcomed policy developments to enable more flexible/modular training. The defunding of the Level 7 Apprenticeship is an area of concern. Many expressed a need for the greater customisation of skills programmes to industry needs, and this is backed by a strong appetite to collaborate with providers to develop relevant training. Stakeholders also called for the government to maintain immigration routes for specialist talent and to extend management development programmes for the sector.

1. Introduction to the Creative Industries Skills Audits

Throughout 2025, Creative PEC and Work Advance embarked on a series of UK-wide Skills Audits for the creative industries and its sub-sectors. A commitment in the Creative Industries Sector Plan and funded jointly by the Department for Culture, Media and Sport (DCMS) and Creative Industries Council (CIC), the Skills Audits have sought to provide an evidence base to enable the creative industries to speak with a united voice on current and future skill needs, pressing skills shortages and gaps and wider workforce issues.

The Skills Audits have been delivered in two phases:

Phase 1: Assessed skills priorities across the creative industries as a whole; and

Phase 2: Examined in greater depth the skills priorities of different creative sub-sectors.

This report is part of the suite of sub-sector Skills Audits produced during Phase two, presenting the skills needs, challenges and priorities of the video games industry.

The research utilises the DCMS definition of the creative industries, which includes the following Standard Industrial Classification (SIC) codes for the sub-sector:

58.21 Publishing of computer games; and
62.01/1 Ready-made interactive leisure and entertainment software development.

The analysis for the Skills Audits is underpinned by an established labour market framework, covering issues of labour demand, occupational structure, current and future skills needs, and drivers of change (Government Office for Science, 2016; OECD, 2019). The framework provides a structured way of thinking about the different dimensions of the labour market: skills supply and demand and the way in which they interact with one another.

The research team deployed a rigorous, five-stage approach to developing the Skills Audits, including:

- **A rapid evidence review**, examining evidence on skills issues across the creative industries, in different UK nations and sub-sectors, produced by government, industry stakeholders and the research community;
- **Secondary data analysis** of official government sources of labour market information (or 'top-down' LMI) to provide a robust, consistent and comparable baseline;
- **New primary research**, the Creative Employer Skills Survey (CESS) 2025, including over 1,300 telephone interviews with employers across the creative industries to explore their perspectives on skills priorities, the talent pipeline, barriers and enablers to skills investment;*

- **A series of roundtables** bringing together government, national and subnational creative agencies, trade bodies, unions, creative businesses and major cultural organisations and education providers to promote shared consensus on skills priorities; and
- **Reporting and dissemination**, including the production of the Creative Industries Skills Audit and a suite of eleven sub-sector audits.

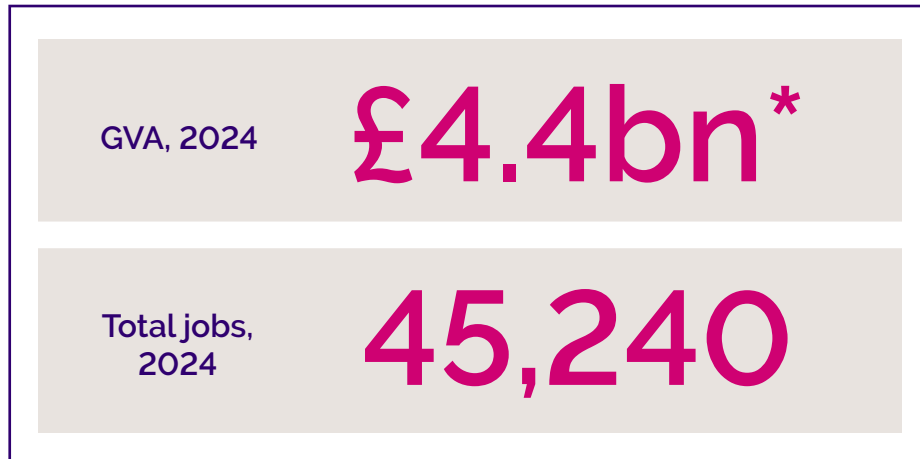
The Skills Audits have been overseen by a Project Board comprising the project funders, Skills England and members of the research consortium. They have been informed by a Steering Group including representatives of government in each UK nation and every creative industries sub-sector.

* Throughout this report, the sample size for each chart is noted as 'n'.

Figure 1: Developing the Creative Industries Skills Audits



2. Sector profile and performance



The games industry, as defined by DCMS, encompasses the development of interactive leisure and entertainment software and the publishing of computer games. The games ecosystem includes major world-leading developers and publishers and smaller-scale independent studios, supported by companies providing key services.

They are part of modern popular culture and have wide-ranging appeal. UK consumers spent £7.6bn on video games in 2024 (Ukie, 2025b), and Ofcom reports that 90% of children aged three to fifteen played games on devices, either online or offline (Ofcom, 2024; Ukie, 2024).

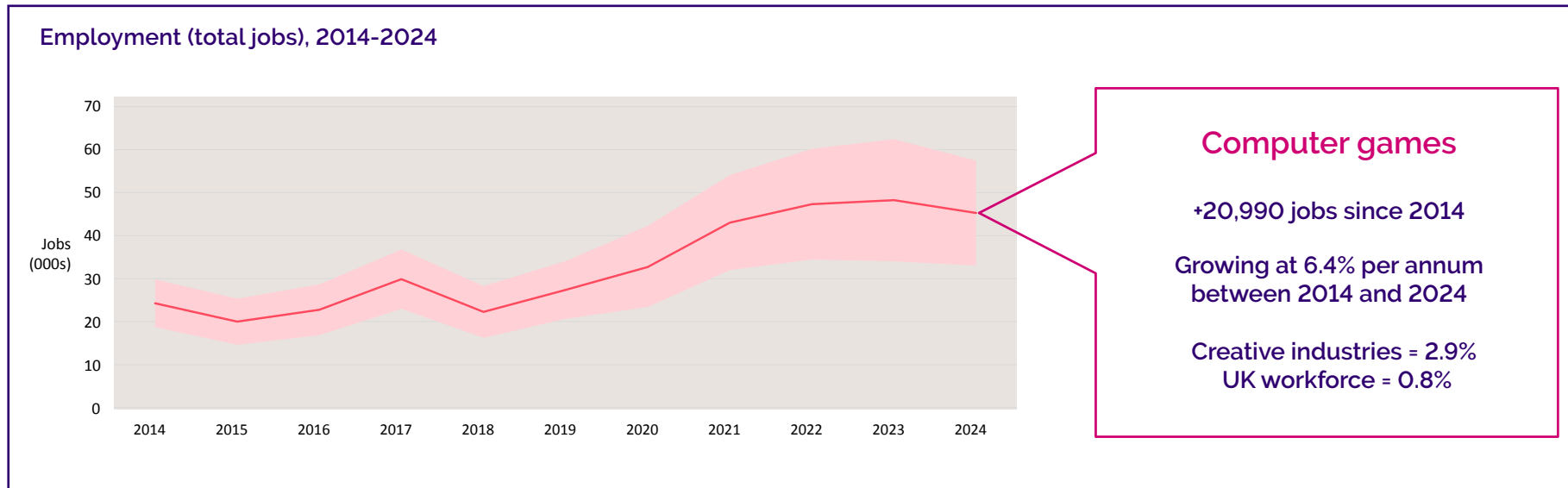
The UK is home to the biggest video games industry in Europe (Video Games Europe, 2024) and is one of the world's largest exporters of video games (Fazio et al., 2024). The latest DCMS economic estimates suggest the industry contributed £4.4bn in gross value added (GVA) in 2024 (DCMS, 2025b). However, research by Nesta has shown a substantial share of games businesses are misclassified, and hence official statistics are thought to significantly underestimate the industry's economic contribution (Bakhshi and Mateos-Garcia, 2014). Industry sources place this in the region of £6bn (Ukie, 2025c; TIGA, 2025).

The sector has expanded rapidly over the past decade, with the number of jobs in the games industry doubling between 2014 and 2024, reaching over 45,000 in 2024. This equates to growth of around 6.4% per annum – more than double the rate of growth of the wider creative industries and nearly ten times the pace of expansion seen across the UK economy in this period.

However, the rapid growth seen during and directly after the Covid-19 pandemic has been followed by more uncertain times. The global games industry contracted in 2024 and the UK has not been immune, with major studios announcing substantial job losses (Kersley, 2024). Longer-term shifts in consumption have driven steep declines in physical sales (both consoles and boxed games), while digital software sales have also declined and growth in mobile and tablets has been relatively modest (ERA, 2025; Ukie, 2025a).

2025 is expected to have been a better year for the gaming industry, with new console and blockbuster title releases, and over the long term the outlook for the sector is positive. Indeed, the Creative Industries Sector Plan (UK Government, 2025) recognised video games as one of four 'frontier industries' with highest growth potential.

Further, expansion of the games industry will bring 'good jobs' to the cities and regions across the UK as, unlike other parts of the creative industries, almost 80% of the UK's games development workforce is located outside of London (TIGA, 2023).



Source: DCMS (2025b, 2025c)

Notes: GVA at current prices. GVA data for 2024 is provisional. Employment is total filled jobs, including second jobs and including both employees and self-employed workers in all occupations. The shaded confidence band represents the plausible range around the central estimate (95% confidence interval). It reflects the uncertainty in the data: when the band widens, the estimate is less precise; when it narrows, the estimate is more reliable. Growth rates are compound annual growth rate (CAGR).

* Official estimates of GVA based on SIC codes have been found to underestimate the economic contribution of the industry given the misclassification of games businesses. See Bakhshi and Mateos-Garcia (2014) for further discussion.

3. Jobs and skills

The games industry is characterised by highly skilled, interdisciplinary work that blends creativity with advanced technology. The employment status of those working in the industry broadly reflects the wider economy, with the vast majority (86%) working as employees and 14% of workers being self-employed (DCMS, 2025a).

The workforce is highly skilled, with more than three quarters (77%) of workers in the games industry being degree qualified, compared to 43% of the UK workforce. With high skills come high rates of pay, with those working in the games industry earning on average £15,000 more per annum than the UK average salary (DCMS, 2025d).

Games development relies on talent across STEM and artistic disciplines, and the workforce reflects this mix, with roles spanning programming, art, design, audio, production, quality assurance (QA), analytics and business functions (Ukie, 2024).

Indeed, the sector encompasses a broad range of occupations. Core development roles include game programmers (software developers, engine programmers, AI programmers), game artists (2D/3D artists, animators, technical artists), game designers (gameplay designers, level designers, UX designers, writers) and audio specialists (sound

designers, composers). In addition, production and project management professionals (producers, product managers) coordinate development teams, ensuring projects run on schedule and on budget. QA testers and engineers are vital for testing and polishing games (ScreenSkills, n.d.).

Beyond development, roles in publishing and business operations are also key, including community managers, marketing and user acquisition specialists, data analysts for player metrics and executives in finance, legal and sales (ScreenSkills, n.d.).

While the games industry offers a wide range of roles, past research has highlighted that opportunities are not equitably distributed, and a lack of workforce diversity continues to be a key challenge for the sector (Taylor, 2022).

Official statistics suggest that women are significantly under-represented in the games industry, filling less than one in five (19%) jobs in the sector. People of colour are also under-represented, with just 6% of the games industry workforce being from ethnic minority backgrounds (DCMS, 2025a).

In line with trends seen across the wider tech sector and creative industries, a diversity census suggests that a substantially greater share of people in the games industry workforce come from 'privileged' (managerial or professional) backgrounds, particularly those working as directors or CEOs in larger organisations (Taylor, 2022).

Figure 3: Employment status of the workforce, 2022-2024

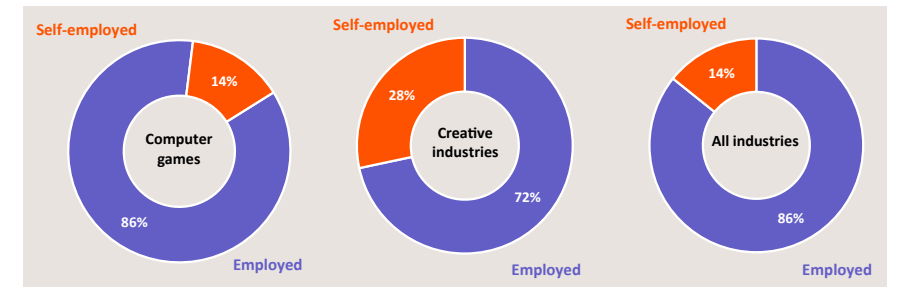


Figure 4: Workforce qualifications (% degree-qualified), 2022-2024

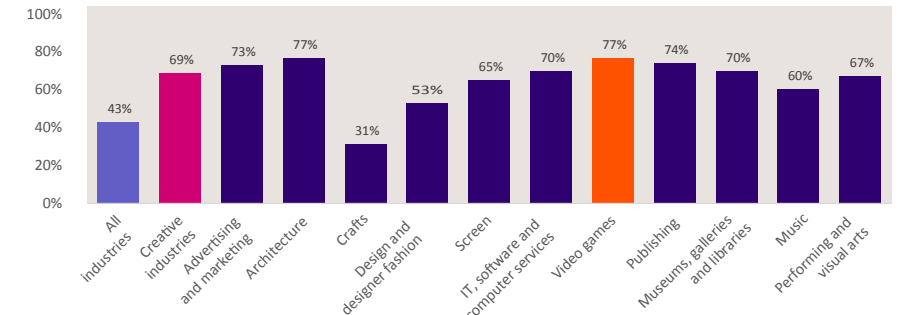
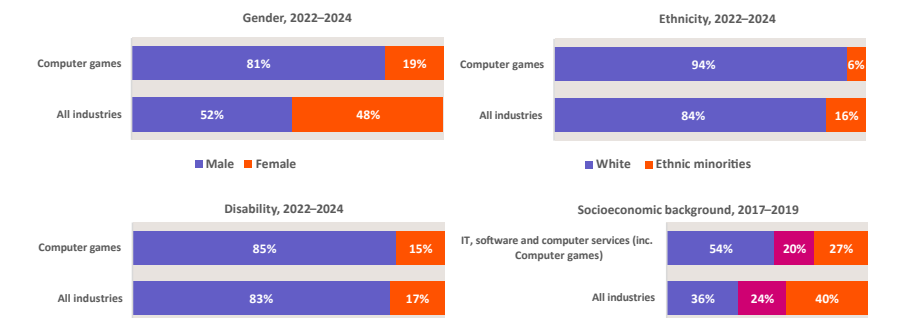


Figure 5: Workforce diversity



Source: DCMS (2025a); Carey, Giles and O'Brien (2023)

Notes: Data based on a three-year pooled sample from the Office for National Statistics Annual Population Survey. Data for socioeconomic background is from the Creative PEC Good Work Review – see Carey, Giles and O'Brien (2023) for further information on definitions used. Given data limitations, figures shown for socioeconomic background utilise the broader DCMS definition of the sub-sector.

4. Recruitment difficulties

The slowdown in the growth of the games industry in recent years is evident, to a degree, in the sector’s hiring activity. New evidence from CESS 2025 suggests that half (51%) of games businesses recruited in the past two years (including permanent staff, agency workers or freelancers) – below the creative industries average (65%).

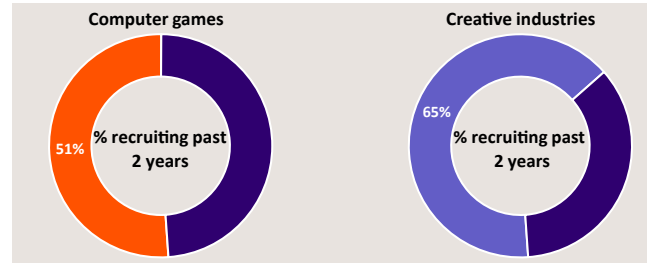
Games businesses were more likely to utilise informal hiring practices, with over half (54%) filling vacancies via word of mouth compared to 46% of employers across the creative industries. In contrast, games businesses were less likely to post vacancies on online job platforms (37%), advertise on their company website (18%) or utilise recruitment consultants (14%).

Recruitment difficulties are particularly problematic for games businesses; over four in ten (42%) employers in the sub-sector reported vacancies were hard to fill compared to one third (32%) across the creative industries.

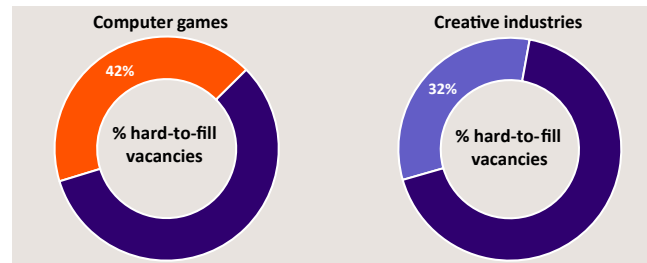
As for other creative employers, three quarters (75%) of games employers who struggled to fill vacancies suggested candidates lacked the skills required for the role, while a higher proportion suggested a lack of experience was a primary cause. While the small number of employers answering questions about the causes of recruitment difficulties means that findings should be treated with caution, those who attended the sub-sector roundtable for games felt the findings accurately reflected some of the key challenges games businesses face in accessing talent.

Figure 6: Hiring and recruitment difficulties, 2025

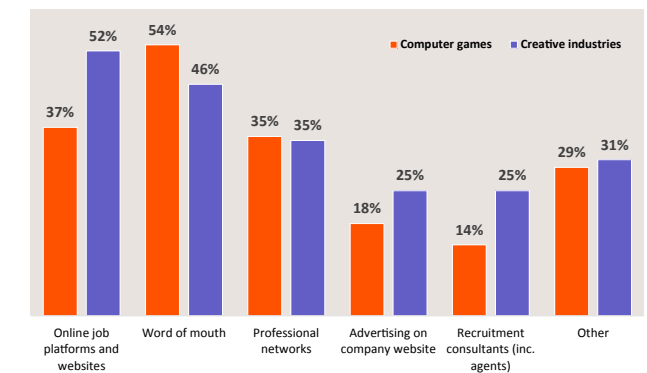
Q: Has this site recruited anyone, including any paid employees, agency staff, and self-employed or freelance workers, in the past two years?
Base = all establishments [n = 50]



Q: Did any of the vacancies you had at this site in the past two years prove hard to fill?
Base = establishments that have recruited in the past two years [n=36]



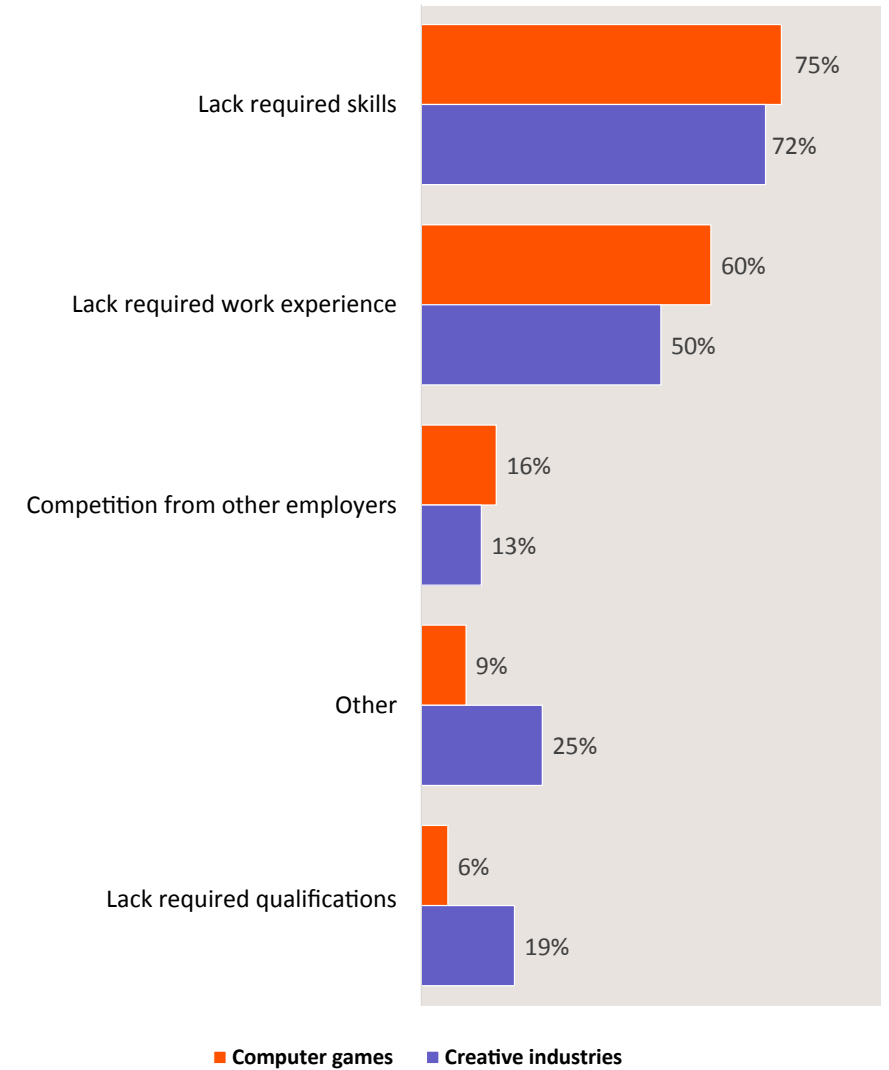
Q: What recruitment methods do you use to fill vacancies at this site?
Base = establishments that have recruited in the past two years [n = 36]



Source: CESS 2025

Figure 7: Main causes of recruitment difficulties, 2025

Q: What were the main causes of your vacancies for [occupation] being hard to fill?
Base = establishments with hard-to-fill vacancies [n = 18]



Source: CESS 2025

Notes: Responses are based on a small sample size. This may result in less precise estimates, which should be used with caution.

5. Skills shortages

When taken together, nearly all (94%) employers in the games industry that had experienced recruitment difficulties pointed to candidates lacking skills, qualifications or experience necessary for the role – a higher share than across the creative industries (79%).

CESS 2025 also sought to examine the occupations in which skills shortages were most acute. While caution should be exercised given the low sample base (n = 16), we found that the vast majority of businesses in the games industry facing skills shortages reported that these were associated with vacancies for experienced workers (five to ten years out of education).

This resonated strongly with stakeholders engaged through the Skills Audit process. Many had struggled to recruit senior staff, while others suggested job requirements (e.g. minimum office time) could act as a deterrent and salary expectations were very high. Others stressed that for expert-level

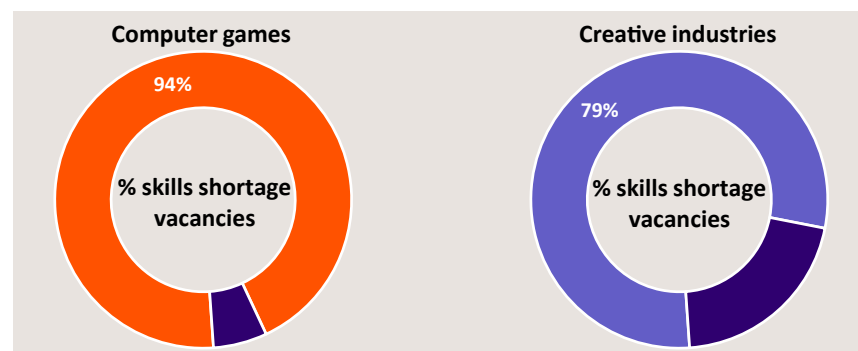
roles, UK games businesses were competing with international studios for talent. Industry stakeholders have in the past highlighted the friction games businesses face in navigating the UK immigration system (Ukie, 2017).

UI/UX designers and researchers and computer programmers topped the list of hard-to-fill occupations, cited by around one in five games employers experiencing recruitment difficulties. This was also echoed by several attendees at the games roundtable, many of whom highlighted difficulties in hiring tools programmers, particularly to work on proprietary games engines.

Creative production roles also featured, with industry employers engaged in the roundtable confirming difficulties recruiting senior-level production staff (e.g. senior creature artists). One in ten games employers with hard-to-fill vacancies suggested these were for wider digital roles, including computer games designers and multimedia animators. In addition to technical roles, games employers also reported difficulty hiring business development managers and sales directors.

Figure 8: Hard-to-fill vacancies caused by skills shortages, 2025

Q: What were the main causes of your vacancies for [occupation] being hard to fill? = Lack of applicants with required skills, qualifications or experience
Base = establishments with hard-to-fill vacancies [n=18]

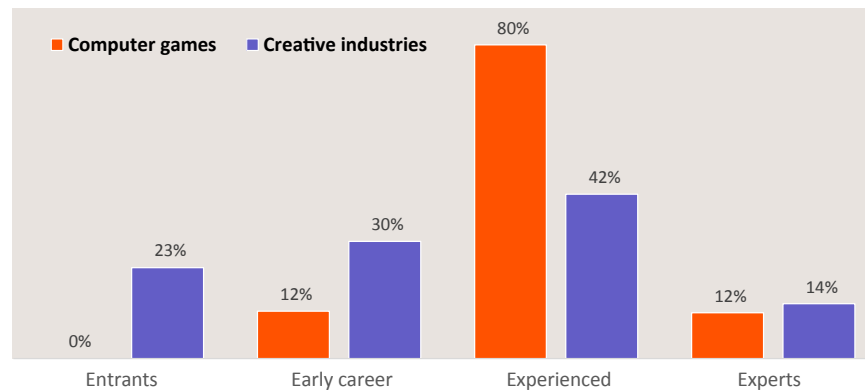


Source: CESS, 2025

Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

Figure 9: Seniority of roles with skills shortages, 2025

Q: How would you describe the level of experience or seniority of the candidates sought for [skills shortage occupation] vacancies?
Base = establishments with skills shortage vacancies [n = 16]

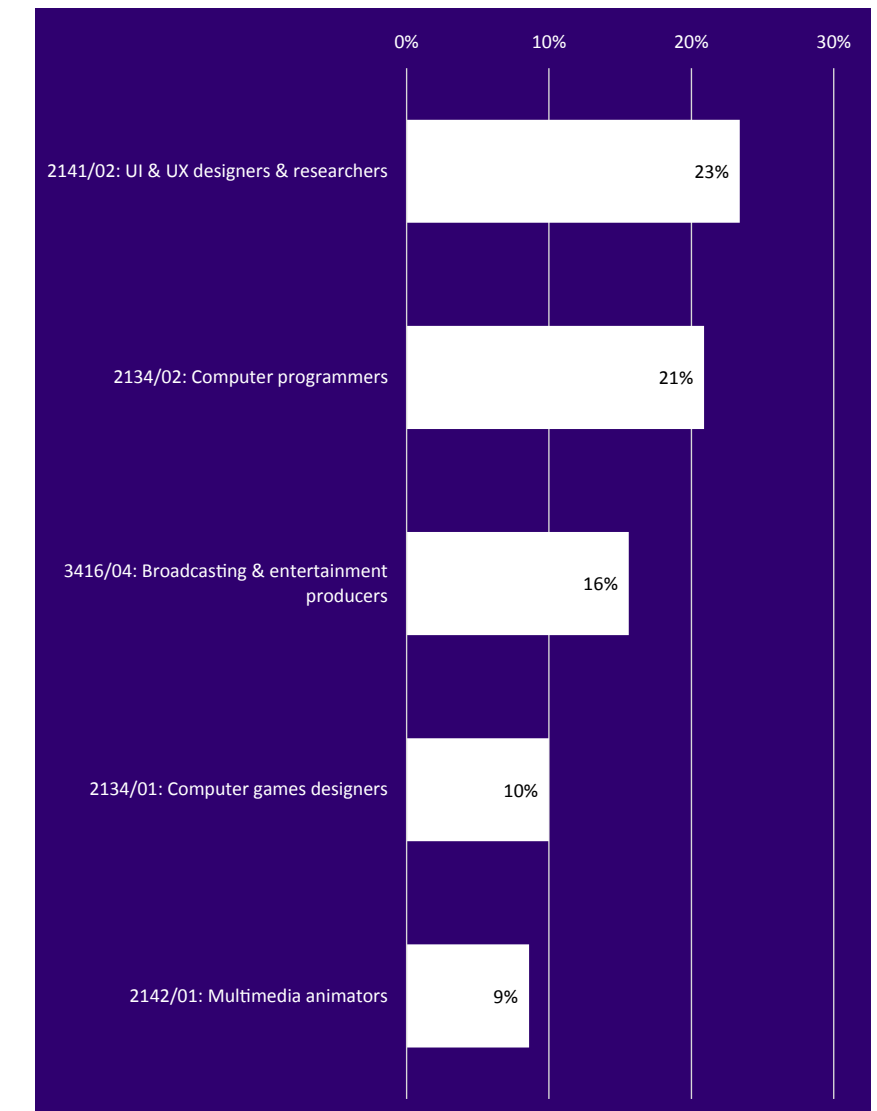


Source: CESS 2025

Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

Figure 10: Hard-to-fill occupations (six-digit Standard Occupational Classification [SOC]), 2025

Q: For which specific occupations did vacancies at this site prove hard to fill?
Top fifteen occupations cited. Base = establishments with hard-to-fill vacancies [n = 18]



Source: CESS 2025

Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

5. Skills shortages (continued)

CESS 2025 sought to explore the specialist or technical skills that employers found lacking among applicants, and these were common areas of concern in the games industry.

Employers pointed to a range of technical skill areas, including UI/UX design, coding, 3D modelling, app design, VFX and art skills. Creative production was viewed as a relatively new area, with a need to develop capability across the industry. Some employers stressed the need for candidates to have practical experience across the full games cycle, from pre-production to release, while others emphasised optimisation for platforms.

Those recruiting for more senior roles suggested applicants needed stronger project management and people management skills. Indeed, people management was identified as a key skills shortage by stakeholders consulted through the Skills Audit process, who also emphasised that post-Covid there was an additional need to better manage remote workforces.

Data skills were also identified as an area where games businesses struggled to access talent, with stakeholders emphasising that this particularly concerned data strategy – that is, how to leverage data to drive organisational success.

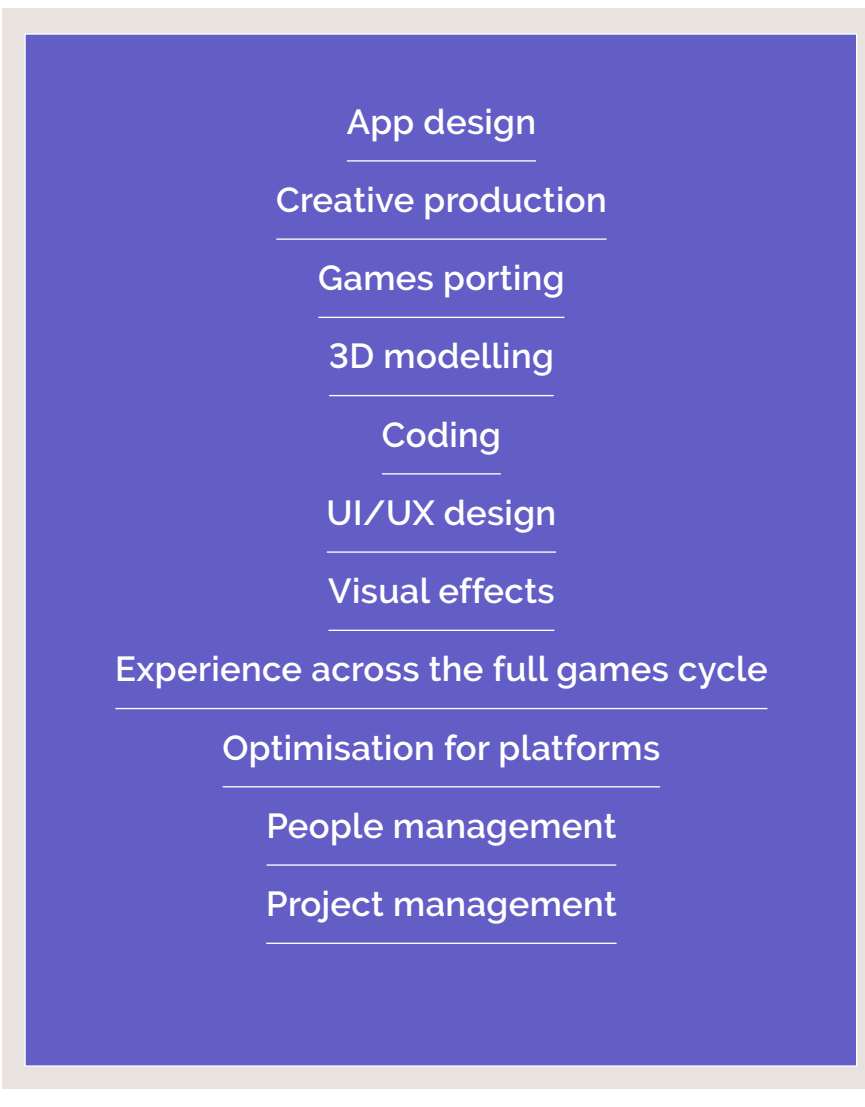
We found that digital skills were also a critical concern for games employers, with more than half (52%) of those experiencing skills shortages suggesting they were struggling to find applicants with the IT skills they need – a higher share than across the creative industries (45%).

As for other creative employers, this often relates to specialist software, hardware or systems – cited by one in five games businesses reporting skills shortage vacancies. This included the skills to work with animation software (Maya and Spine), games engines (C# or C++ to work with Unreal and Unity) and tools for data analytics such as SAS and SPSS.

Figure 11: Specialist skills shortages, 2025

Q: Have you found any specialist skills or knowledge needed to perform the role difficult to obtain from applicants for [skills shortage occupation] vacancies? If so, what specific specialist skills or knowledge have been lacking?

Base = establishments with skills shortage vacancies (n = 16)

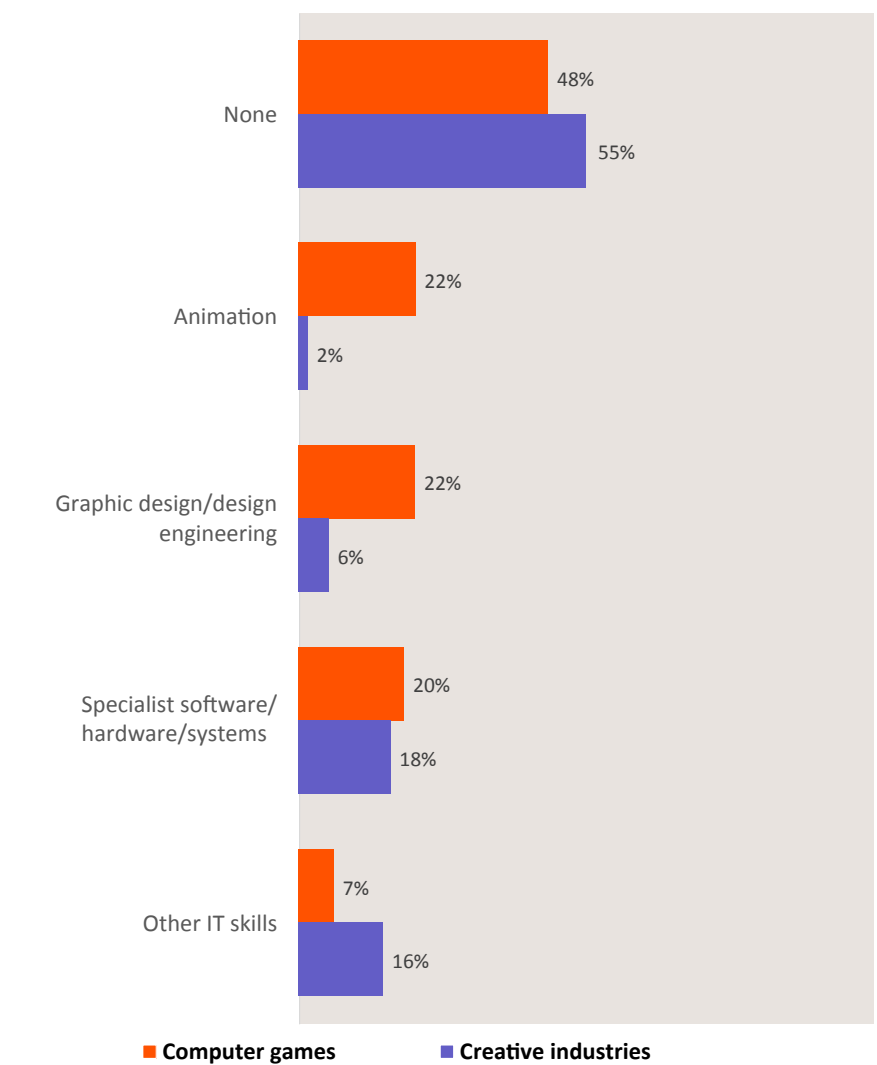


Source: CESS 2025

Figure 12: Digital skills shortages, 2025

Q: Have you found any basic or advanced IT skills difficult to obtain from applicants for [skills shortage occupation] vacancies? If so, what specific IT skills have been lacking?

Base = establishments with skills shortage vacancies (n = 16)



Source: CESS 2025

5. Skills shortages (continued)

Employers in the games industry were also more likely to suggest candidates were lacking graphic design and design engineering skills or animation skills. This was cited by around one in five employers with skills shortages in games compared to 6% and 2% (respectively) across the creative industries (see Figure 12).

Alongside technical and digital skills, CESS 2025 sought to explore whether skills shortages are rooted in a lack of core or 'transversal' skills among candidates applying for roles. These are cross-cutting skills needed in a range of different tasks and job roles and used in a wide variety of situations in life and work.

In games, it is commonplace to work in multidisciplinary teams, often in project-based cycles, so strong teamworking skills are often seen as a prerequisite to building successful careers in the industry. Yet, games employers reported that these skills are difficult to find when recruiting – cited by 38% of those reporting skills shortage vacancies in the sector compared to 27% across the creative industries.

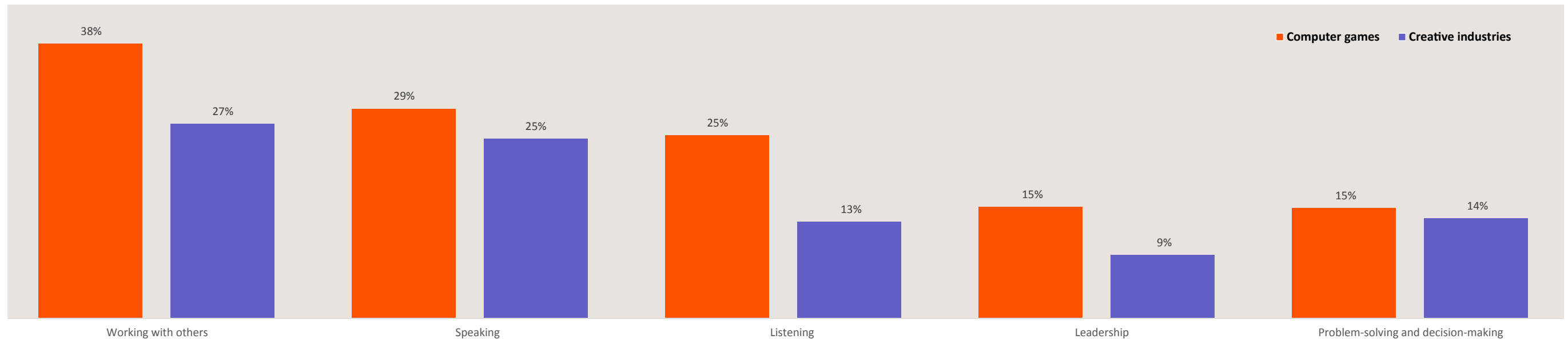
Communication skills were another area of concern for games businesses, who were more likely than businesses across the creative industries to suggest candidates applying for roles lacked the listening skills and verbal communication skills they needed.

In line with some of the specialist and technical skills referenced (see previous page), games employers were also more likely to suggest that those applying for roles lacked the leadership skills they were looking for.

Those reporting skills shortages were also asked whether these related to organisational ambitions to become more sustainable or carbon neutral. In the games industry, few businesses suggested that candidates lacked the sustainability skills they needed, although this finding may be impacted by the small number of employers answering this bank of survey questions (n = 16).

Figure 13: Core skills shortages, 2025

Q: Have you found any core or 'transversal' skills difficult to obtain from applicants for [skills shortage occupation] vacancies. If so, what specific core or transversal skills have been lacking?
 Base = establishments with skills shortage vacancies (n = 16)



Source: CESS 2025

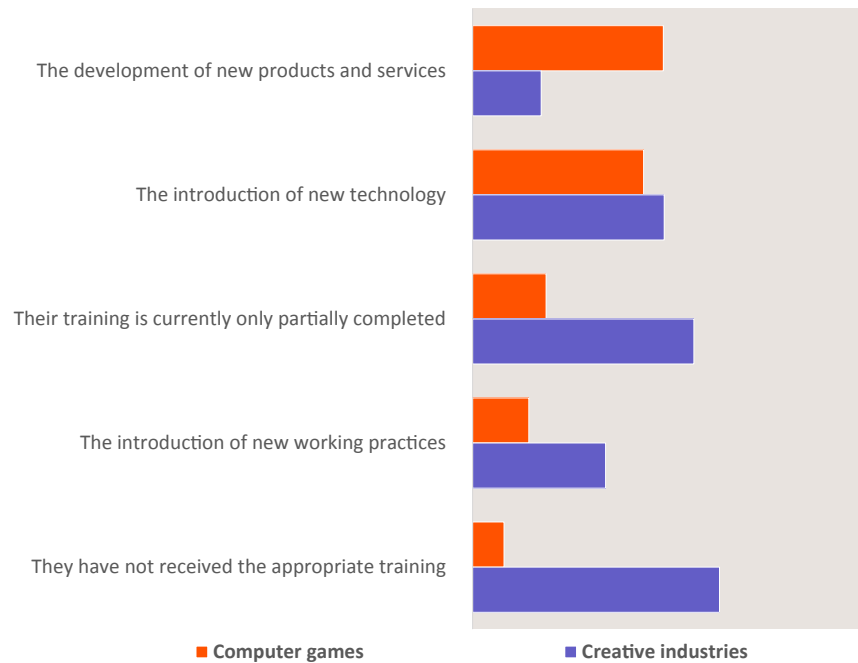
Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

6. Skills gaps

While skills shortages (experienced when recruiting) are more of a challenge for games businesses, skills deficiencies among their current workforce are slightly less so. One in five (20%) employers in the games industry reported skills gaps – below the average across the creative industries (32%).

Figure 14: Main causes of skills gaps, 2025

Q: What are the main causes of staff in [skills gap occupation] not being fully proficient in their jobs?
Base = establishments with skills gaps (n = 11)



Source: CESS 2025

Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

Given the small number of surveyed employers that reported skills gaps, further analysis of the patterns and causes should be treated with caution.

Those games businesses that reported skills gaps tended to suggest they were driven by transformative factors, including the development of new products and services and the introduction of new technologies, often new engines. Indeed, attendees at the games roundtable discussed the 'skills half-life' in the games industry, observing how the knowledge and skills acquired during front-loaded education diminishes rapidly in value or relevance over time, as technical skills needs are evolving so rapidly in the sector. Interestingly, those games businesses reporting skills deficiencies among their workforce tended to point to issues in two main areas: entrants who left full-time education less than two years ago and experienced staff, five to ten years into their career.

While the low sample base prevents us from presenting individual occupations affected, we are able to get a sense of which skills games employers view as deficient among their workforce. A small number of employers in the games industry suggested that workers lacked specialist or technical skills. Some of those employers pointed to a need for their staff to strengthen project management skills, including familiarity with Agile management approaches and software designed to support task management and progress tracking, such as Jira.

Other employers highlighted a need to strengthen wider digital skills, particularly working with specialist software, including animation software such as Maya and Spine; games engines, including C# or C++ to work with Unreal and Unity; and tools for data analytics like SAS and SPSS. Games employers were also more likely to suggest staff lacked core/transferable skills. Sometimes this related to the perception that some workers were quite introverted and struggled with their verbal communication skills and the ability to work effectively with colleagues.

Management skills again featured, with several employers highlighting a need for staff, including senior leaders and others with staff management responsibilities, to have stronger performance management practices and the ability to nurture strong connections and effective team dynamics among remote workforces.

Figure 15: Skills gaps, 2025

Q: Thinking about your current workforce (including employees, agency staff, self-employed or freelance workers), approximately what percentage would you regard as fully proficient at their job? = <100%.
Base = all establishments (n = 50)

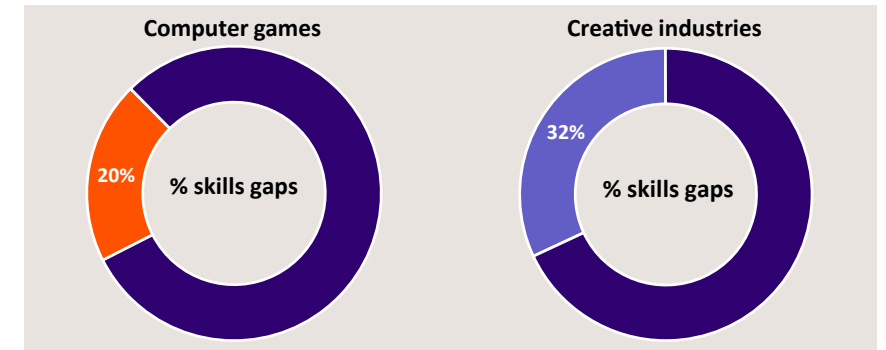
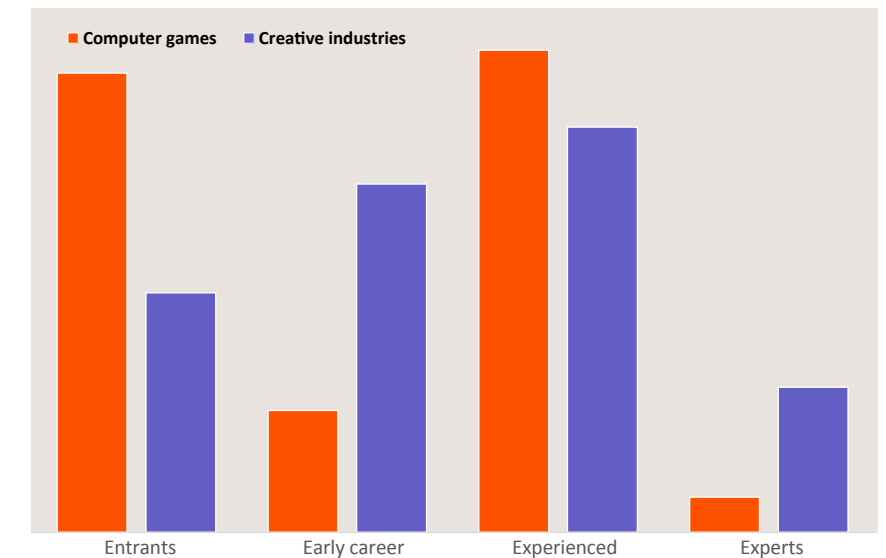


Figure 16: Seniority of staff with skills deficiencies, 2025

Q: How would you describe the level of experience or seniority of the staff working as [skills gap occupation]?
Base = establishments with skills gaps (n = 11)



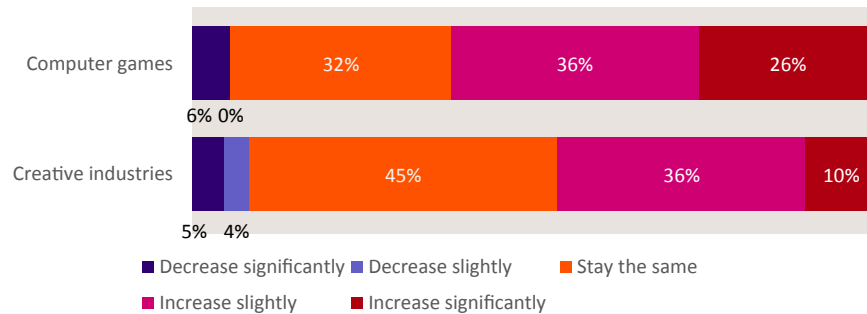
Source: CESS 2025

Notes: Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

7. Future jobs and skills needs

Figure 17: Employer expectations for employment in the next three to five years, 2025

Q: Over the next three to five years, how do you expect the number of staff (including employees, agency staff, self-employed or freelance workers) at this site to change?
Base = all establishments (n = 50)



Source: CESS 2025

CESS 2025 also sought to explore employers' expectations for the future, asking whether they anticipated the need to increase levels of employment and/or upskill their workforce in the next three to five years.

What we found is that, despite the challenging industry context of today, employers in the games industry are highly ambitious for the future. Indeed, the majority of games employers (62%) expected to increase staff numbers in the years ahead – significantly higher than most other creative sub-sectors and above the creative industries average (47%).

Further, almost all games employers that expect to grow staff numbers also anticipate a need to upgrade the skills of their workforce over the next three to five years. As with other parts of the creative industries, upskilling needs

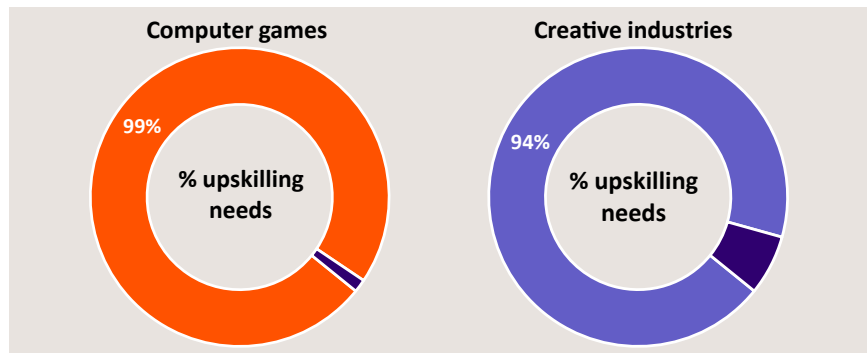
are predominantly driven by technological advancement and innovation. More than three quarters (78%) of games employers expected a need for staff to acquire new skills or knowledge as a result of new technologies, and 70% expected it because of the development of new products and services.

When examining the technologies driving shifts in the skills needed in the games industry, employers often highlighted the need to respond to updates to specialist software (Unreal, Unity, Blender, Toon Boon) or hardware (PCs, consoles, VR headsets).

A large number of employers also emphasised the impact of AI. This included a need to reflect generally on how AI (e.g. ChatGPT, CoPilot) can be integrated into the development process and also on how AI might be integrated into their own products

Figure 18: Employer expectations for upskilling in next three to five years, 2025

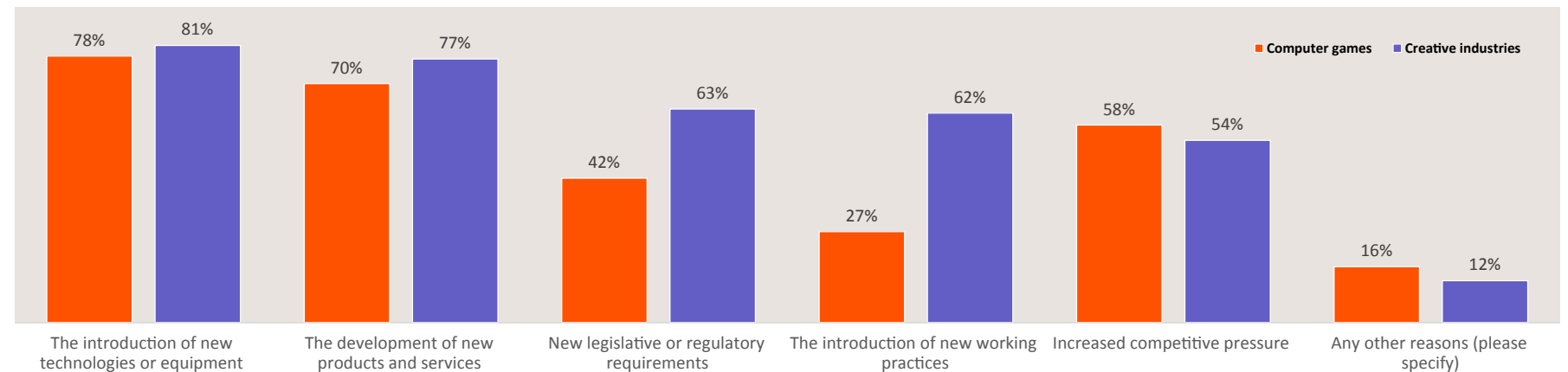
Q: Over the next three to five years, do you expect that any staff at this site will need to acquire new skills or knowledge? ≠ 'None'
Base = establishments expecting to increase staff numbers in future (n = 33)



Source: CESS 2025

Figure 19: Main drivers of upskilling needs, 2025

Q: Over the next three to five years, do you expect that any staff at this site will need to acquire new skills or knowledge as a result of the following factors?
Base = establishments with upskilling needs (n = 33)



Source: CESS 2025

7. Future jobs and skills needs (continued)

CESS 2025 also takes a detailed look at which job roles will become increasingly in demand and which will require staff upskilling over the next three to five years.

Technical/digital roles top the list of occupations in demand in future. This includes computer programmers (cited by 23% of those employers anticipating a need to grow their workforce), computer games designers (22%) and software developers (20%). Multimedia animators as well as graphic and multimedia designers were also expected to be in growing demand in the years ahead, cited by over one in ten games employers that were planning to expand their workforce.

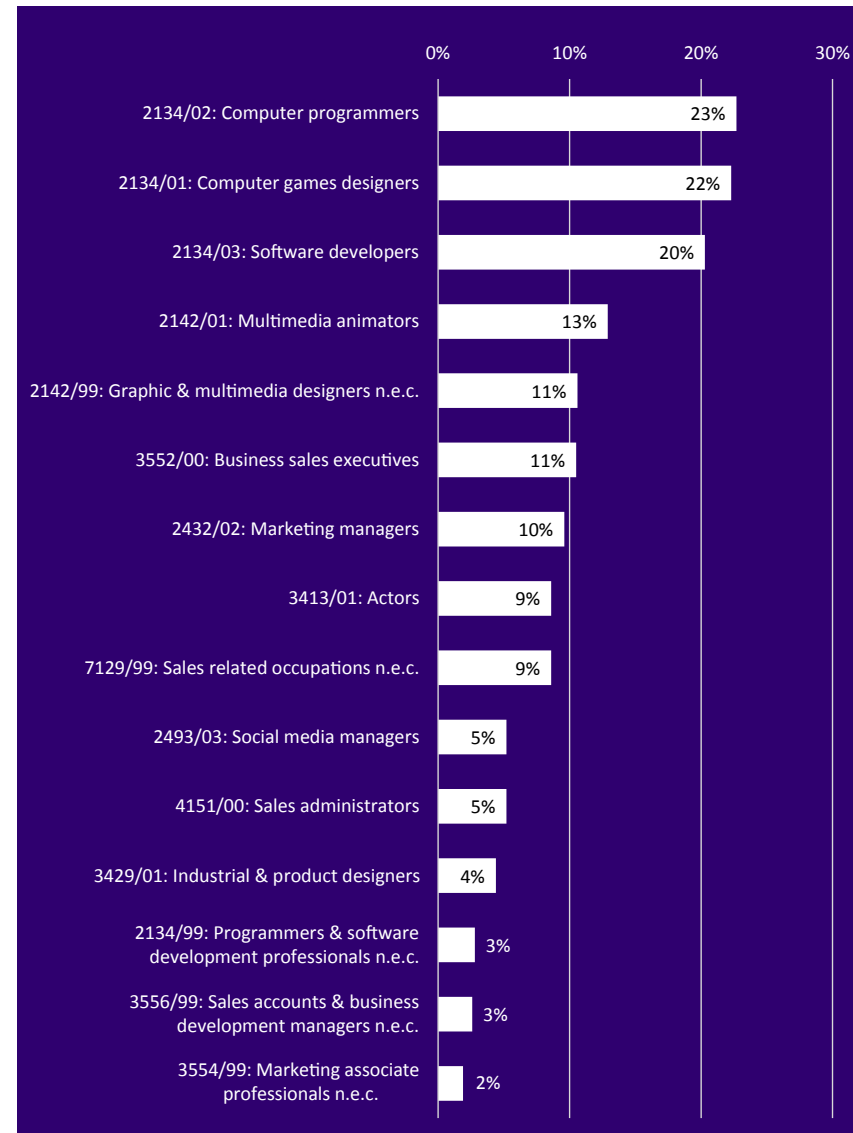
Alongside these technical roles, employers expected to expand the number of staff working in marketing and sales roles, including marketing managers (10%), business sales executives (11%), other sales-related occupations (9%) and social media managers (5%). Stakeholders engaged through the games roundtable also viewed these commercial roles as key to enabling firms to respond to market shifts, not least from physical to digital delivery, subscription-based models and monetising free-to-play games across multiple platforms (ERA, 2025).

In the list of occupations where employers anticipated a need for upskilling, digital roles also tend to feature highly, likely reflecting the impact of technology on the skills needs of those working within these occupations. For instance, 44% of games employers expected software developers to need to acquire new skills or knowledge over the next three to five years and 18% expected that computer programmers will need to upskill.

Figure 20: Occupations in demand in future, 2025

Q: In which specific occupations do you expect the number of staff to increase over the next three to five years?

Top fifteen occupations cited. Base = establishments that expect staff numbers to increase (n = 30)



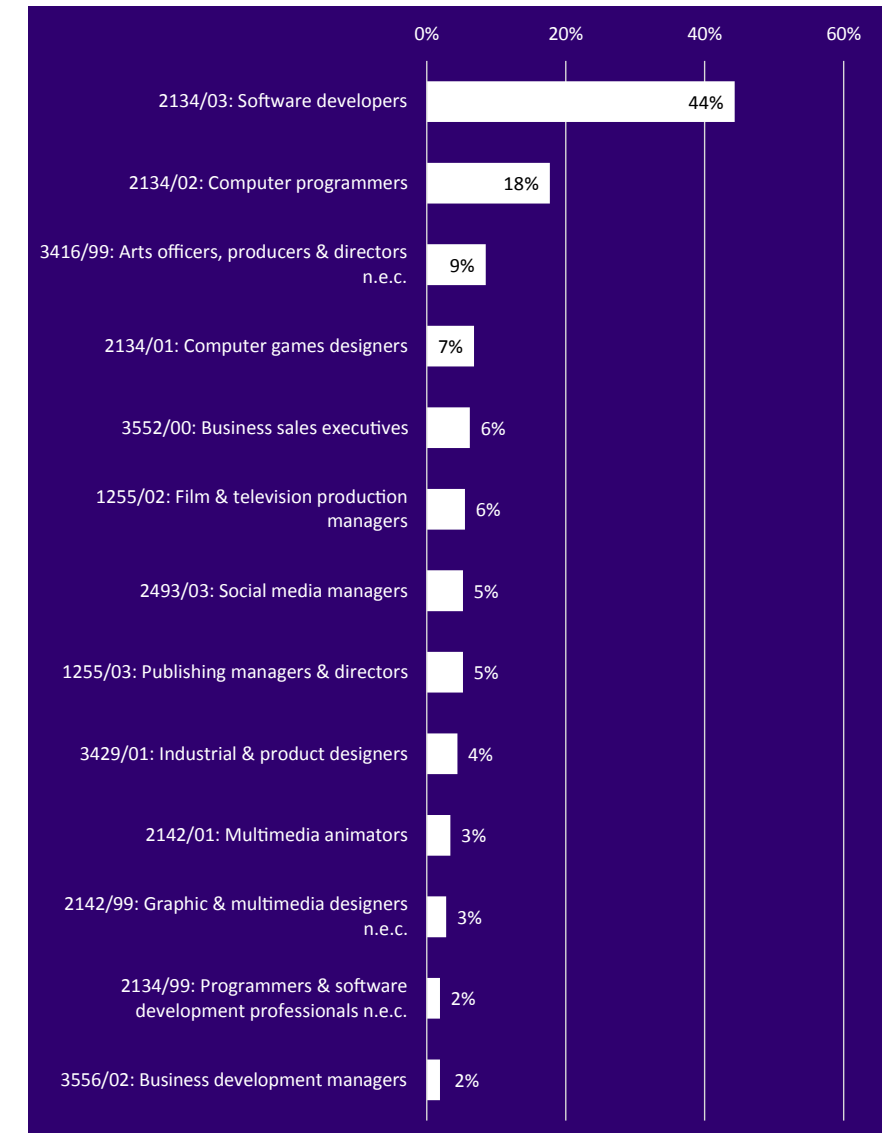
Source: CESS 2025

n.e.c. Not Elsewhere Classified

Figure 21: Occupations with upskilling needs, 2025

Q: In which specific occupations do you expect staff to have the greatest need to acquire new skills or knowledge over the next three to five years?

Top fifteen occupations cited. Base = establishments with upskilling needs (n = 30)



Source: CESS 2025

n.e.c. Not Elsewhere Classified

7. Future jobs and skills needs (continued)

Turning to the skills needed to operate effectively in these roles, employers identified a range of specialist and digital skills or knowledge that they felt would need to be strengthened in the years ahead.

In the games industry, given the nature of jobs, it is difficult to draw a distinction between technical skills and digital skills. Many of the specialist skills viewed as important by employers in future are advanced digital skills. These include programming languages (e.g. C++) to work with gaming engines, UI Design, 2D and 3D art, visual effects and animations, VR programming and systems development, WEB3 and blockchain technology, and AI programming and machine learning.

Indeed, employers responding to the survey and participants at the games roundtable emphasised the transformational effects of AI on the sector, from augmenting gaming experiences to shifting workflows and embedding these new technologies as a tool for creators.

Cybersecurity is another specialist skill viewed by games businesses as important for the future.. Although it was only referenced by one business responding to the employer survey, participants at the games roundtable suggested that the protection of intellectual property (IP) was a well-established concern for games businesses. Some were providing regular cybersecurity training for all staff, some outsourced work in this area, recognising the specialist skills and knowledge required, while others raised the need for stronger focus on the protection of customer data, alongside IP, not least given the growing number of cyber-attacks.

CESS 2025 also highlights a need for stronger business development, social media marketing, project management, client management and leadership and management skills in future. This resonated strongly with attendees at the games roundtable. They suggested that strong leadership and commercial skills are vital to pivoting and expanding revenue streams, as traditional markets are declining sharply and others are reaching saturation. They also mentioned the growing competition with other forms of entertainment used by players (Ukie, 2025a; ERA, 2025).

Figure 22: Specialist skills needs in next three to five years, 2025

Q: Which, if any, specialist skills or knowledge do you feel will need improving over the next three to five years?

Base = establishments with upskilling needs (n = 32)

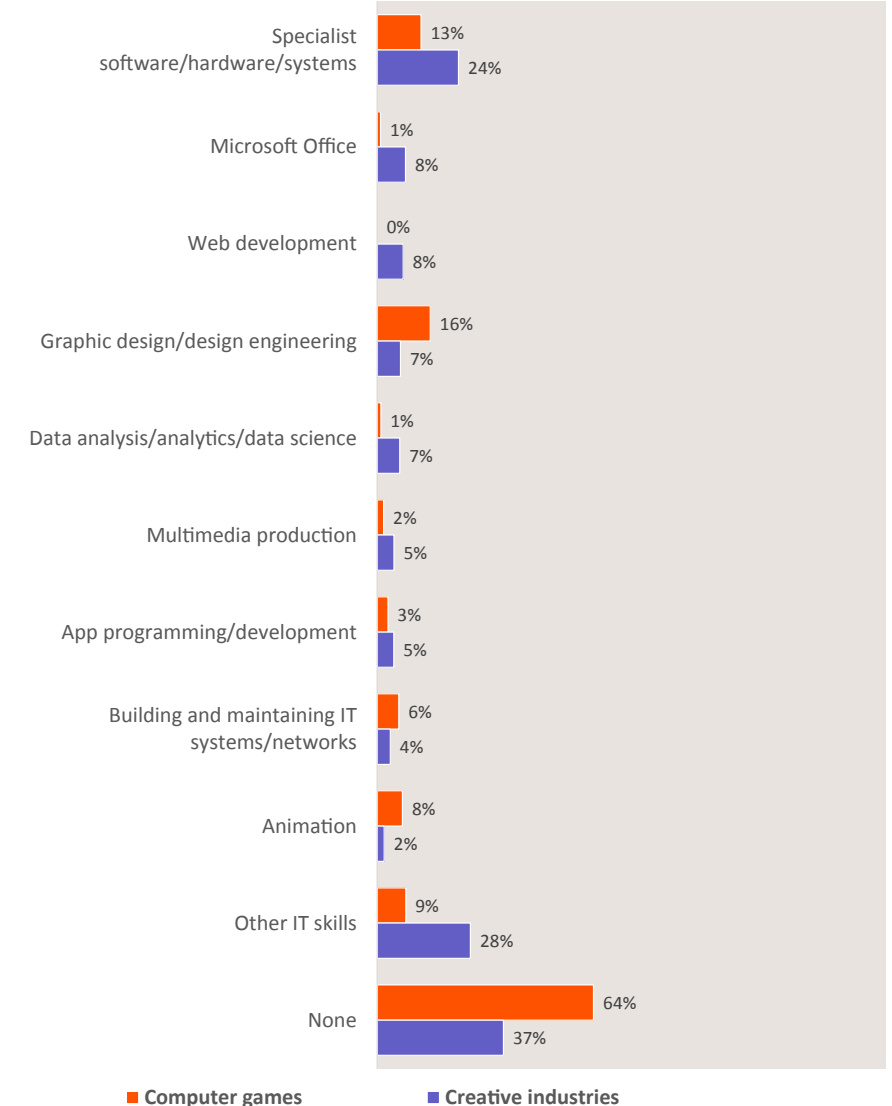


Source: CESS 2025

Figure 23: Digital skills needs in next three to five years, 2025

Q: Do you expect staff will need to acquire new IT skills over the next three to five years? If so, which specific IT skills do you feel will need improving?

Base = establishments with upskilling needs (n = 32)



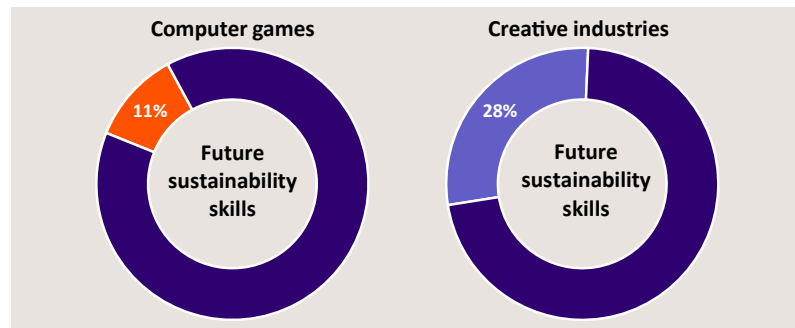
Source: CESS 2025

7. Future jobs and skills needs (continued)

Figure 24: Sustainability skills needs in next three to five years, 2025

Q: Are any of the skills you expect staff will need to acquire over the next three to five years related to wanting to be more sustainable or carbon-neutral? If so, what specific sustainability or 'green' skills will need improving?

Base = establishments with upskilling needs (n = 32)



Employers in the games industry also emphasised the importance of improving the core/transversal skills of staff in future; many of these skills are in strong demand today.

The ability to identify, gather and interpret information to support ongoing learning and skills development (learning and investigating) was seen as particularly important. It was cited by one third (34%) of games employers that anticipated a need to upskill their workforce over the next three to five years – a significantly higher proportion in the sub-sector than across the creative industries (10%). Adaptability was also viewed as particularly important in games, not least given the transformation of the industry.

Around one in four games businesses suggested a need for stronger planning and organising skills (25%) and teamworking (23%) – broadly in line with the creative industries average (25% in both cases).

Games employers were also more likely to point to the need for staff to upgrade their management and leadership skills in future – echoing some of our earlier findings when exploring skills deficiencies among the workforce.

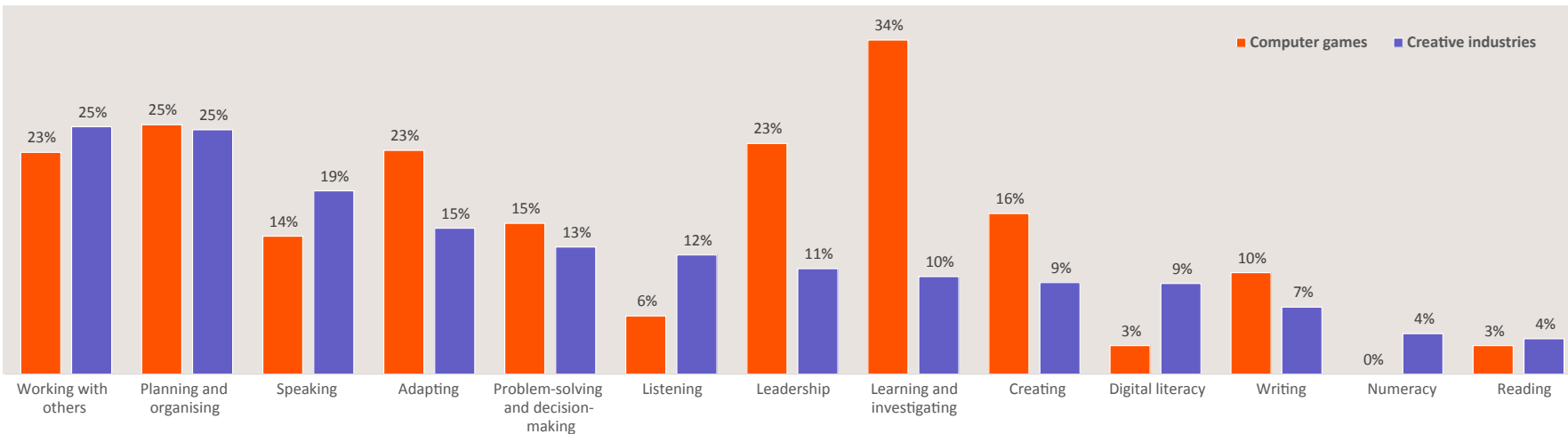
CESS 2025 also sought to explore whether employers anticipated the need for staff to upskill to support the sustainability goals of the organisation. One in ten (11%) games employers felt this would be important in future – a lower share than across the creative industries (28%). Those that did pointed to a need to become more energy efficient and promote carbon-neutral practices, from simple measures such as turning off lights to making sure data servers were energy efficient.

This was reinforced by participants at the games roundtable; some were already progressing with wide-ranging measures to promote sustainability, not just at studio production but also by embedding greener practices across their businesses.

Figure 25: Core skills needs in next three to five years, 2025

Q: Which, if any, core or 'transversal' skills do you feel will need improving among your staff over the next three to five years?

Base = establishments with upskilling needs (n = 32)



Others highlighted the challenge that games businesses faced in understanding their sphere of influence, given the disparate nature of the industry. Console manufacturers face different issues compared to developers, who have less influence over the behaviours of their player base with regards to sustainability.

Generally, there was a sense that the industry was starting to view sustainability as a business priority, with one survey respondent interested in exploring the recognition/kitemarking of firms that embrace more sustainable practices. Roundtable participants pointed to Playing for the Planet and industry awards as valuable means to embed more sustainable practices across the games sector.

8. Employer investment in skills

CESS 2025 also examined the impact of skills shortages and skills gaps (collectively referred to as skills challenges) on employers and any actions they are taking in response. The majority (58%) of games employers experiencing skills challenges report these are having an impact on their business – a slightly lower proportion than across the creative industries (69%). Further, only 4% of businesses with skills challenges in the games industry reported that these are hindering long-term growth or investment plans.

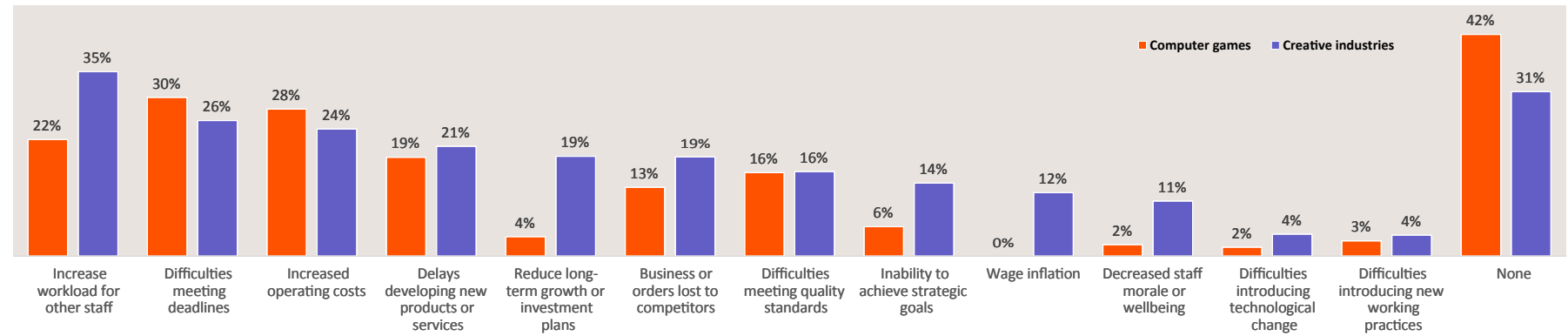
However, skills shortages and gaps are causing wider issues for games employers, including making it difficult to meet deadlines (cited by 30% with skills challenges), increasing operating costs (28%) and increasing the workload of other staff (22%). Around one in five (19%) suggested the skills challenges they faced were delaying the development of new products or services.

Nearly two thirds (63%) of games businesses were taking action in response to the skills challenges they faced – a slightly lower share than across the creative industries (82%). Often this involved increasing workforce training – cited by one third (32%) of employers in the games sector facing skills challenges. Games businesses were, however, taking 'other' action, including more clearly stating skills requirements (inc. transversal skills) in job ads, strengthening HR practices, developing career maps for staff, offering pay incentives to promote staff retention, providing leadership development, implementing new technology and collaborating with other local games businesses and local skills bodies to develop relevant training.

Figure 26: Impact of skills challenges, 2025

Q: Thinking now about all occupations in which you have skills challenges – that is, either where you cannot recruit someone with the right skills or where the people doing these jobs do not have all the skills that they need – what impact are these skills issues having on this site?

Base = establishments with skills shortages or skills gaps (n = 23)



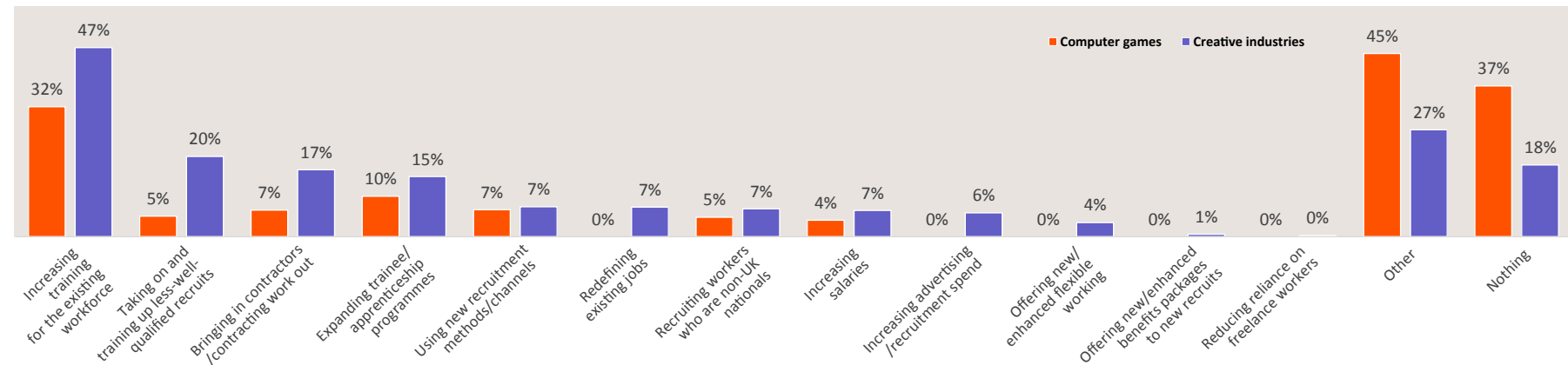
Source: CESS 2025

Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

Figure 27: Response to skills challenges, 2025

Q: What, if anything, is your site doing to overcome these skills challenges?

Base = establishments with skills shortages or skills gaps (n = 23)



Source: CESS 2025

Estimates are based on a small sample size. This may result in less precise estimates, which should be used with caution.

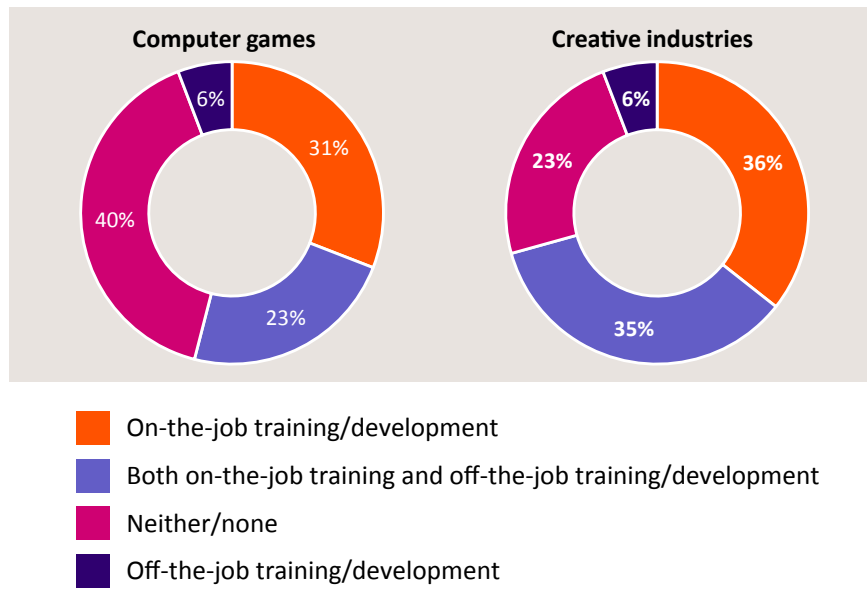
8. Employer investment in skills (continued)

CESS 2025 also looked at the training provision by creative employers over the past year. The survey found that 60% of employers in the games industry had provided training for staff. This suggests higher levels of training than indicated by wider surveys (e.g. see the Employer Skills Survey 2022 in Giles, Carey and O'Brien, 2025), potentially reflecting the wider definition (including training for agency/freelance staff), but falling short of average rates of training reported across the creative industries (77%).

Often training is 'on the job', as provided by one in three (31%) games employers. Games businesses were also less likely to have offered a blend of on- and off-the-job training compared to all employers in the creative industries (23% vs 35%). Only a small proportion of employers in both the games sector and across the creative industries had provided only off-the-job training (both 6%).

Figure 28: Employer training provision, 2025

Q: What, if any, training has your organisation arranged or funded over the past twelve months?
Base = all establishments (n = 50)



Source: CESS 2025

When we examined barriers faced by employers in providing more, or indeed any, training for workers, practical financial and time constraints feature heavily.

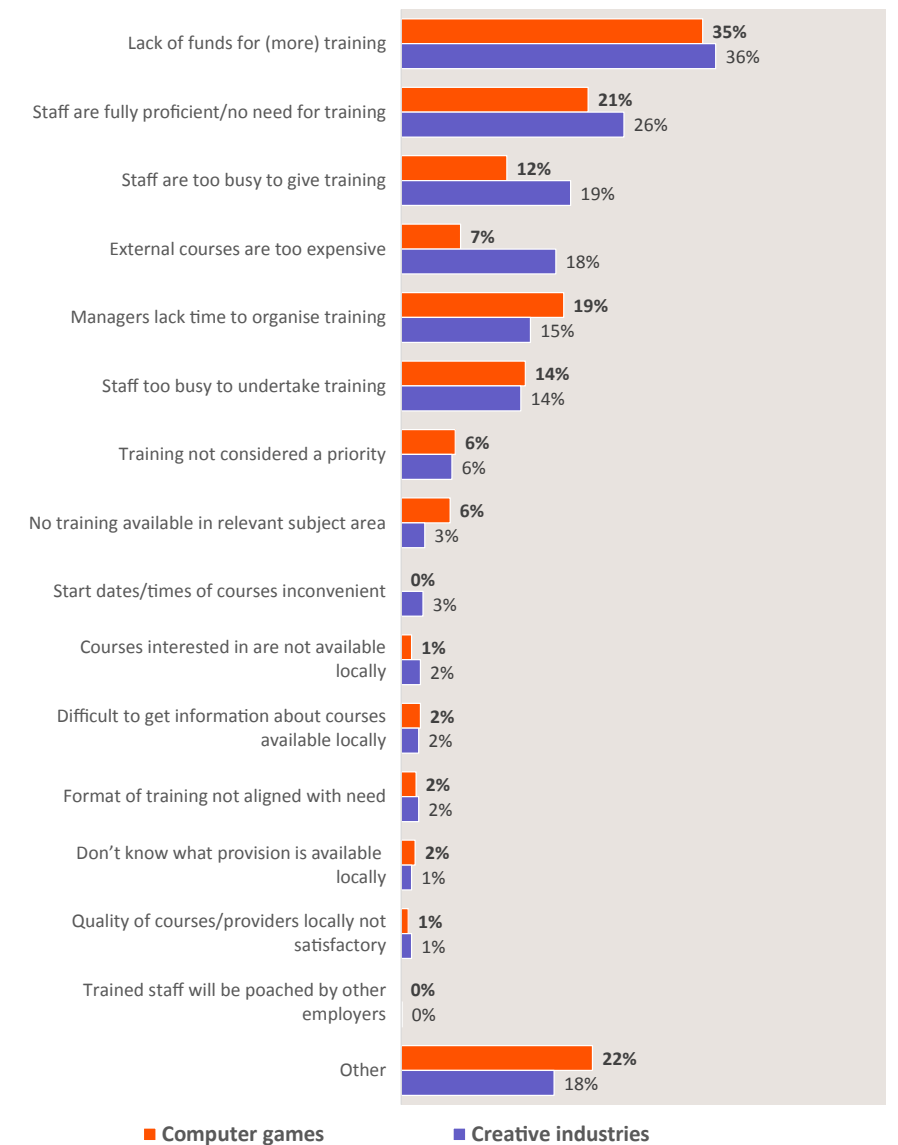
Over one third (35%) of employers in the games industry pointed to a lack of funds – in line with the creative industries average (36%). Time for training appeared to be a particular challenge for employers in the sub-sector. One in five (19%) employers in the games industry suggested that managers lacked time to organise training, compared to 15% across the creative industries. Further, 14% suggested that staff are too busy to undertake training.

More positively, only 6% of games businesses suggested that training is not considered a priority for the business – in line with the average across the creative industries. A similarly small share pointed to a lack of training relevant to the subject area – 6%, compared to 3% across the creative industries.

Indeed, very few games employers identified barriers relating to the relevance, format, timing or location of training. Yet, attendees at the games roundtable suggested that skills provision was not always well aligned to sector needs and was insufficiently flexible to accommodate the working patterns in the industry.

Figure 29: Barriers to training provision, 2025

Q: What, if anything, prevents your organisation from offering (more) training for staff at this site?
Base = all establishments (n = 50)



Source: CESS 2025

8. Employer investment in skills (continued)

When businesses shared which measures would enable them to continue to invest in skills and training, they emphasised the importance of a range of factors. Perhaps unsurprisingly, given the barriers to training, games employers frequently pointed to financial support, including financial subsidies towards the cost of training (cited by 78%) and tax relief on expenditure on staff training (73%). This is a higher share than across the creative industries (67% and 59% respectively).

Nearly half (49%) of games businesses called for more flexible forms of training. Stakeholders consulted during the skills audit process welcomed additional flexibilities for core skills products, including the funding of short courses through the Growth and Skills Levy (HM Government, 2025).

These were viewed as offering the potential to promote ongoing upskilling among the workforce, provided that funding is available to support high-quality courses aligned to the evolving needs of the games industry. Skills bootcamps were another area of interest.

More generally, stakeholders suggested there was scope for greater customisation of skills programmes to the specific needs of the industry. Others raised concerns that wider policy developments, particularly the defunding of the Level 7 Apprenticeships, could act to hinder skills investment in the sector.

Nearly one third (30%) of employers in the games industry would welcome information or advice on finding training relevant to their needs. This resonated strongly with attendees at the games roundtable, who emphasised the importance of 'making it easy' for studios, particularly smaller studios, to identify relevant training. They also suggested minimising the administrative burden of accessing mainstream skills programmes, such as apprenticeships.

Interestingly, there appeared to be a stronger appetite for collaboration among games businesses compared to the creative industries more widely – including with other businesses (40% vs 35%) or with providers (47% vs 38%) to develop training aligned to business needs. This resonated strongly with stakeholders at the games roundtable, who emphasised the need for industry to work closely with further and higher education providers to ensure skills provision was well aligned with industry needs, not least given how quickly these change.

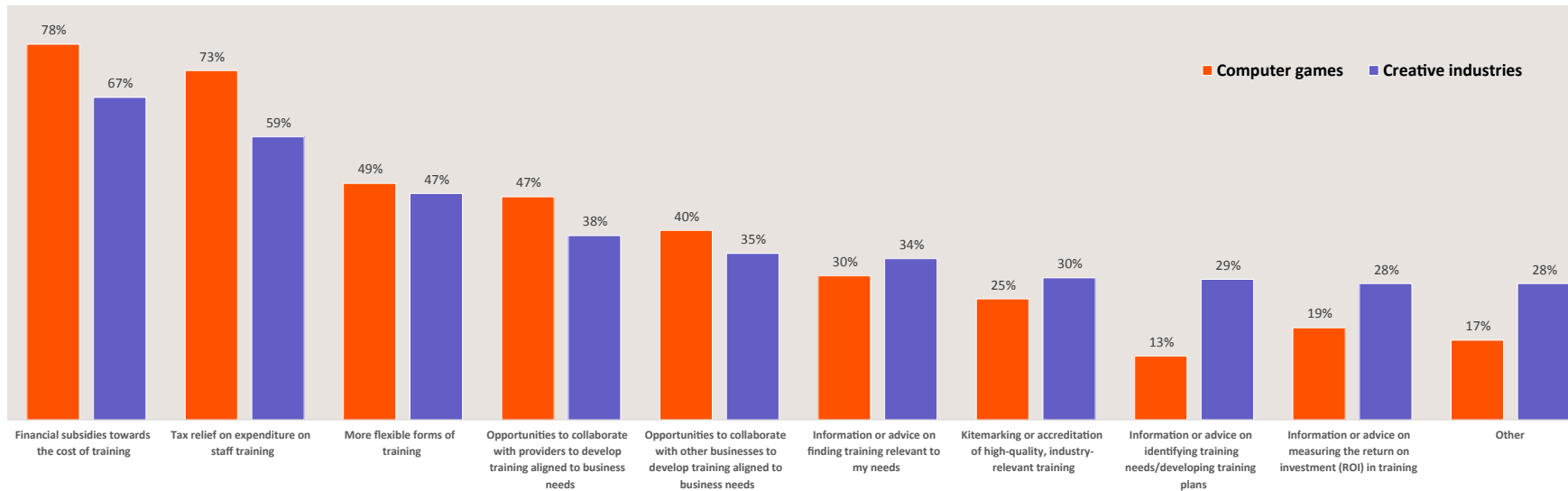
Others highlighted the need for industry to access international talent, particularly for specialist roles with very niche skills requirements. They also emphasised the importance of the sector working with the government to maintain immigration routes in key areas.

Finally, the stakeholders consulted suggested there was an important role for management development programmes customised to the needs of the sector. These were thought to offer the potential to extend the capacity of business leaders in the games industry to review the skills of its workforce, identify upskilling needs and better anticipate the talent pipeline needed to achieve organisational objectives for the future. Some emphasised the value of peer learning or non-formal learning in social settings as useful mechanisms for knowledge exchange and capacity building.

Figure 30: Enablers of employer investment in training, 2025

Q: What measures would enable your organisation to offer (more) training in future?

Base = all establishments (n = 50)



Source: CESS 2025

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